

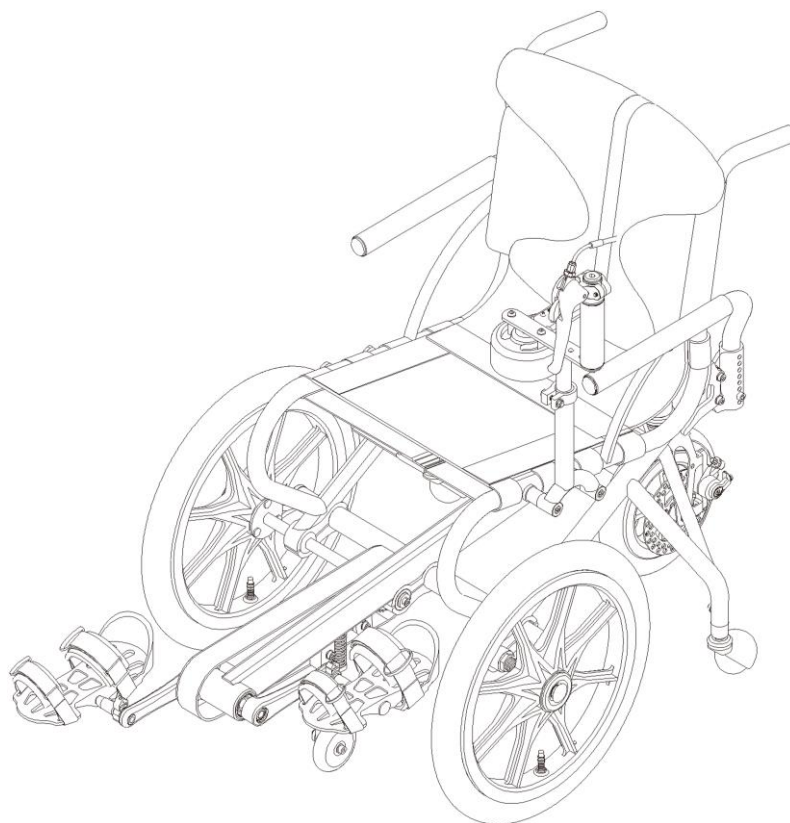
NEUROMODULATION

Tohoku University of Japan,

Supervising Visiting Professor of Health Extension, Dr. Handa

Profhand

Safety and Users Manual



Before using Profhand, please read this manual thoroughly.

Before children use the pedal wheelchair, caregivers must read this manual beforehand so that children can properly use the wheelchair safely.

Issued date :2012/06/06

Introduction

First, we would like to express our appreciation to you for purchasing our company's product. For the purpose of helping the user to maximize this product's function and to safely use this product, this manual thoroughly explains Profhand's exact usage, adjustments and inspection procedures.

Profhand has unique equipment and methods of usage. To safely and comfortably use this product, even if user is familiar with the operation of wheelchairs, he/she should carefully read over this manual before using Profhand. Thus, also be careful to safeguard this manual and avoid losing it.

Before children use Profhand, have them go over this manual with their caregiver and completely follow the caregiver's guidance.

After reading this manual put it in an accessible place where the user can peruse at any time.

If you usually neglect to inspect your wheelchair, then there is a risk that you will damage your wheelchair and could cause an accident.

Every user's ability and condition are different, so please do thoroughly read this manual in order to prevent mistakes in operating the wheelchair, damaging the wheelchair, or having an accident.

If there are missing pages or there is a binding error, please use the contact information given below for a replacement

StarLinx USA

Phone: +1(408)781-6153

☆ DISPLAY POSITION OF PRODUCT CODE NUMBER

In order to properly facilitate after-sales service, write down the product code number below for use during contact. Product code number is attached to the inner right side of the frame.

S / N : _____
(Write Product Code Number)

Due to specification changes or the fact that many different items have common specifications, illustrations or contents may be different than the actual items

Introduction

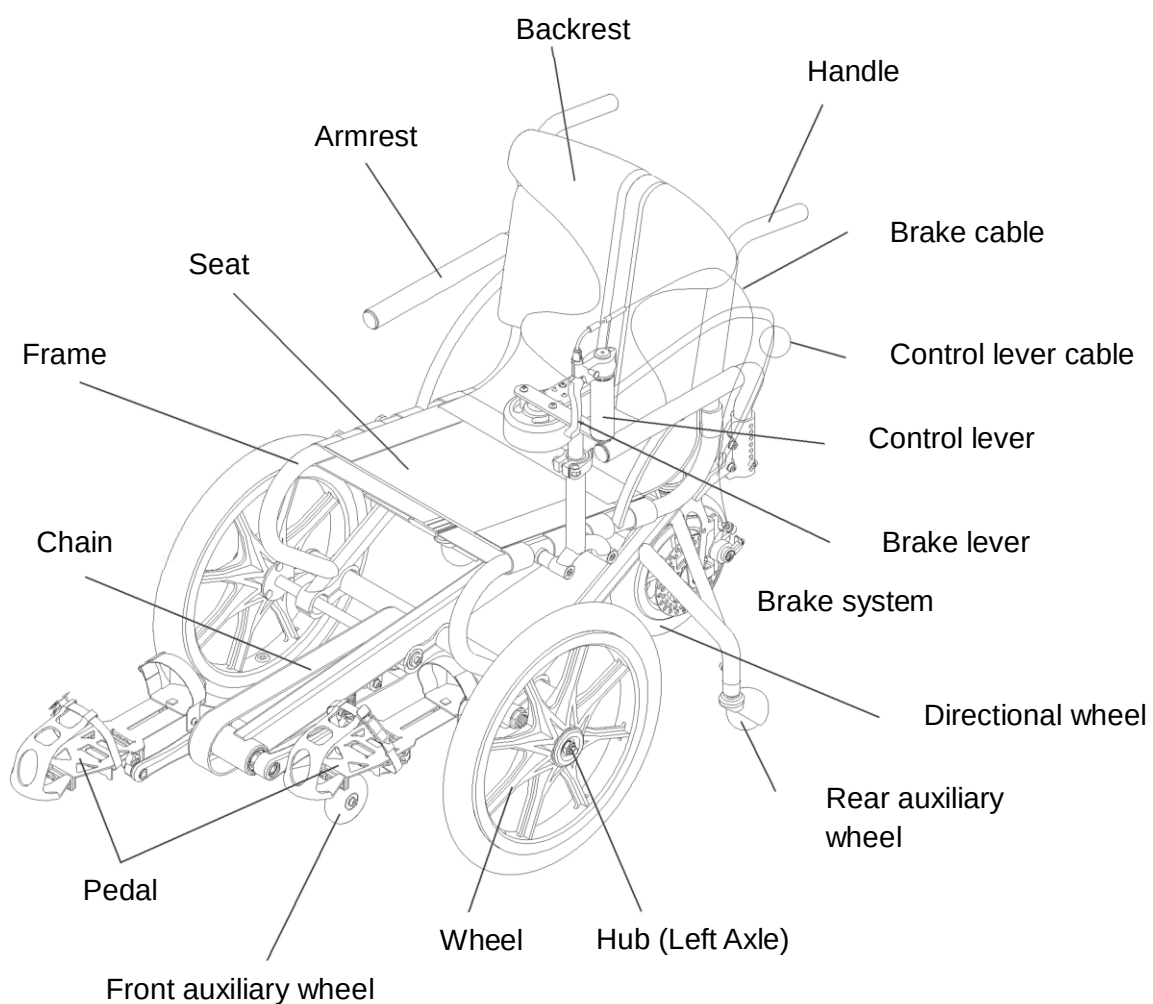
Accessories

Please ensure that you have the following items.

Profhand

Safety and User's Manual

Part Names



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Label Explanations

In order to prevent harm to the customer, other people, or property damage, this manual uses labels to accurately explain safety methods of use for this product. Thus for safety reasons familiarize yourself with the contents of every label.

WARNING 

This label expresses that if instructions are not followed death or serious injury could result.

ATTENTION 

This label expresses that if instructions are not followed then injury to the user and/or damage to the wheelchair could be resulted.



This label points towards the need to tighten down a part. Periodically check to see if part has loosened; if so then tighten parts.



This label refers to part that needs oiling. Periodically (approximately once per month) oil the part.



This label shows that paints and oil products are not applied to this area/part. If oil based products do come in contact with this area/part then completely wipe clean.

Safety Precautions



Profhand is intended to be operated in a calm and composed manner, do not use in any other manner; otherwise there is a risk of accident, overturning the wheelchair, or damaging the wheelchair. This product is intended for level ground/floor level operation. Do not install any other assistive power devices.

Do not use the wheelchair if it is damaged or during abnormal circumstances. Such usage could result in an accident or the wheelchair overturning. If there is a malfunction or abnormality, stop usage and consult with a dealer.

Do not perform alterations to or dismantle Profhand. Alterations will reduce safety and cause damage to parts of the wheelchair or cause parts to fall off damaging the wheelchair – could even lead to an accident or the wheelchair overturning. Therefore, do not willfully make alterations to or dismantle the wheelchair – if your wheelchair should need maintenance or servicing, please contact your dealer.

If you are not confident in making adjustments then don't. Mistakes could result in damage to or loss of wheelchair parts which could further cause an accident or the wheelchair to overturn. If you are not confident in making adjustments then consult with your dealer.

Do not use if there hasn't been a reliable adjustment completed. Otherwise this could lead to an extra physical burden for the user or even possibly seating discomfort. Adjustments are made to coordinate with the user's body condition and to maintain proper posture. Moreover, the user's paralyzed part of body should not come into contact with, for example, the frame or any other part of the wheelchair.

After installation of the wheels, do not use wheelchair until you have ensured that the wheels are affixed tightly. Wheels that are not affixed tightly have a high risk of falling off and could cause the wheelchair to overturn. Thus, ensure this is done properly.

During riding, do not touch the quick release buttons for risks of the wheel coming off and the wheelchair overturning.

Do not place the wheelchair in high temperature places (for e.g. near a heater or hot vehicle). Tires of the wheelchair risk rupturing due to the extreme heat.

Users with Irritant or sensitive skin conditions are suggested to put on clothing to avoid direct contacts with parts such as the armrest, backrest, and control lever etc.

Avoid wearing clothing that could easily get entangled in parts of the wheelchair. Clothing that gets caught in the wheel or leg pedal could cause an accident or the wheelchair to overturn.

Do not grasp/hold to any other modes of transportation to assist in moving for risk of causing damage to the wheelchair or the wheelchair overturning.

Do not treat the wheelchair as a stool for sitting. There is a risk of losing balance which could result the user to fall down.

When placing the wheelchair in the car trunk ensure that it is properly set in a fixed position. A wheelchair that is moving around affects or impedes driving and could also lead to malfunction of the wheelchair.

Do not stand or sit on the pedals for risk of falling, overturning the wheelchair, and damaging the wheelchair.

When cleaning do not let wax get on the tires or brakes. When there is wax on the tires or brakes it is difficult to control the speed thus creating a situation where an accident may occur or the wheelchair may overturn. If brakes or wheels come into contact with wax, then wipe clean.

Safety Precautions



Profhand is not recommended for use outside during heavy rain. Both brakes and tires will be slippery making it difficult to control the speed – again creating a situation where an accident/crash or the wheelchair overturning could occur. If brakes and tires should become wet, then use a dry cloth to wipe dry any wet areas on the tires and brakes.

Do not drive fast downhill to avoid risks of crashing or overturning the wheelchair. Use the brakes to control the speed.

Do not operate the wheelchair alone on inclines of greater than 10° for risk of accident or wheelchair overturning. Best to ask someone for assistance to go up inclines.

Do not go on bumpy surfaces for risk of accident, wheelchair overturning and causing damage to the wheelchair. Do not operate this wheelchair in mountainous areas, sand, wilderness, rivers, water, mud, rough terrain etc. Best to have someone accompany the user if use in these areas is a must.

Avoid operating the wheelchair on rough surfaces (crossings, sidewalks, uneven surfaces, and potholes) alone – many different types of surfaces. Both the small and large wheels can get stuck and damage the wheelchair as well as possibly causing an accident or have the wheelchair rollover.

Do not use on bumpy or rugged roads for risk of damaging the wheelchair, having an accident, and the wheelchair rolling over. If use in these areas is a must, have someone accompany the user.

Do not walk your pet while driving wheelchair for risk that the pet may drag the wheelchair and cause an accident or wheelchair may overturn.

Avoid operating the wheelchair by yourself in slippery areas. Construction site panels, slippery wet surfaces and railway tracks – all of which could lead to an accident or the wheelchair overturning. In such cases, it is best to ask for assistance.

Do not hold an umbrella while operating this wheelchair. On rainy days wear appropriate clothing for the rain (raincoat, hat).

When the brakes are in a locked position do not use the wheelchair. Damaged brakes could lead to an accident or the wheelchair overturning. After unlocking the brakes then you can use the wheelchair.

Do not let children near the wheelchair when it is not in use. The wheelchair could be pushed over or the child could be run over by it.

Do not operate wheelchair after intake of drugs or alcohol which decrease motor function, for risk of an accident such as falling or the wheelchair rolling over.

Do not touch the rotating parts of the wheelchair (wheel, spokes etc.) for risk of user's hand being injured by rotating parts.

Do not put anything (e.g. bag) on the back of the wheelchair. If these should come into contact with the brake cable or control lever cable then this could cause an accident.

Do not use on escalators for risk of having a 'tumbling' accident.

Do regular monthly inspections and maintenance of all parts. Without inspections or maintenance there is risk of equipment malfunction.

When first starting to ride your wheelchair be careful to pay attention to your surroundings. Children are at risk of having their hands caught in the moving parts.

According to a user's physical condition, use seat cushion appropriately as there is risk of developing seat sores.

Do not use the wheelchair as a car seat. Use of the wheelchair seat as a fixed car seat risks damaging the wheelchair. In vehicles, sit in car seats or another wheelchair seat.

Safety Precautions



Avoid using at night for risk of having an accident. Ride on well-lit streets and wear reflective clothing or carry a night/caution light and bicycle bell.

Have the brakes on, when the wheelchair is stopped, not in use, or when getting on the wheelchair. If wheelchair starts to move inadvertently, there is risk of falling, rolling or of the wheelchair overturning - so even for temporary parking ensure that the brakes are on.

Do not use the wheelchair when you are barefoot or wearing slippers or sandals for risk of injuring your feet. Wear socks and shoes which have a sole and heel when using this wheelchair.

Do not leave outside. Weather or temperature could deteriorate parts rapidly. Put the wheelchair inside for storage and safekeeping.

Do not let the seat cushion or clothing touch rotating parts (e.g. tires, spokes). This would damage the clothing or cushion.

Ensure the Velcro straps are fastened properly. Velcro's strength of attachment and need for adjustment will change after a certain period of time.

Clean the Velcro of dirt, sand, debris etc. Velcro's strength of attachment and need for adjustment will change after a certain period of time.

Do not move the wheelchair until your feet are properly put on the pedal. If the pedal comes into contact with the floor then it could damage the floor. If you do move the wheelchair while not seated in it, then remove the pedal first.

Do not put your foot on the chain guard for risk of damaging the chain guard.

Please keep Profhand clean at all time. The cushion and the back pad could be cleaned with mild/neutral detergent if dirty.

Please do not share the use of Profhand if contagious skin-related disease is present in order to avoid transmission of infections.

Please do not exceed the loading capacity of 100KG in order to avoid possible damage or danger. Indoor use of Profhand is suggested. If outdoor use is necessary, please use on smooth surfaces and ensure caregiver is present at all time and that the surrounding environment is free of danger.

Safety Precautions

Safety Tips for Those Assisting User

WARNING

While operating the wheelchair, do not touch the wheels. The person pushing the wheelchair has a risk of having their hand(s) caught in the wheel. Ensure that they use the handles when pushing the wheelchair.

Do not use armrests to push the wheelchair. This wheelchair has movable armrests, thus using the armrests when pushing the wheelchair could lead to the wheelchair overturning or causing other types of accidents.

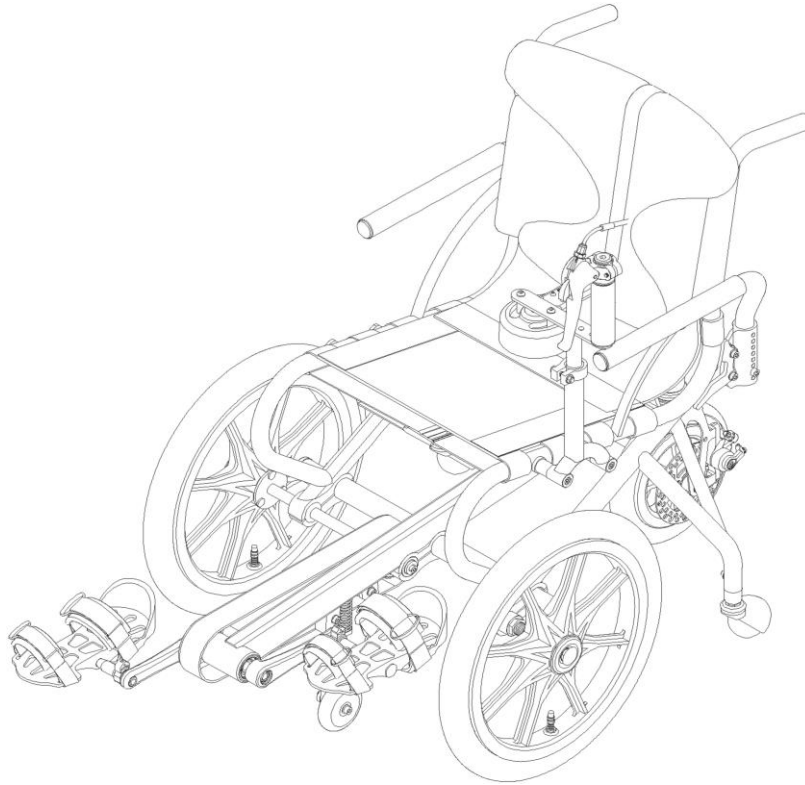
Pushing wheelchair position. Since there is a risk of a wheelchair overturning, the person pushing the wheelchair could also be injured so it is imperative that the handles are used when pushing the wheelchair.

When installing wheels, ensure that quick release button has been returned to a closed position. If your wheels should happen to fall off, the wheelchair could overturn and cause an accident.

Whether removing / installing wheels or having someone push the wheelchair, the user must thoroughly explain usage.

PART 1

Part 1 Explanation of Profhand's basic operation,
maintenance, adjustments and inspection.



PRE-USE INSTRUCTIONS
BASIC OPERATION
MAINTENANCE
MANAGEMENT
ADJUSTMENTS / INSPECTION
ADJUSTABLE PARTS

Information You Need to Know Before Riding

Control Lever Operation, Adjustment and Inspection

Operation – Illustration 1-3

- 1) Looking down on the control lever, for a right turn rotate the control lever to the right. For a left turn, rotate the control lever to the left. For going backwards do the same.

Adjustment of Control Lever Height – Illustration 1-3

- 1) Loosen the nut and bolt (1).
- 2) Adjust to appropriate height and tighten the nut and bolt (1). *Do not let the hole of the inner pipe be exposed while making adjustment.
- 3) Make sure that nut and bolt are tightened.

Position Adjustment – Illustration 1-3

- 1) Remove the bolt (2).
- 2) At the appropriate adjustment hole position, install the control lever. Tighten the bolt (2), then use an 8 mm L-shaped hex key to tighten hole 'A'.

WARNING ⚠

Ensure that the crank is attached tightly. Otherwise, you won't be able to control the wheelchair and are at risk of an accident.

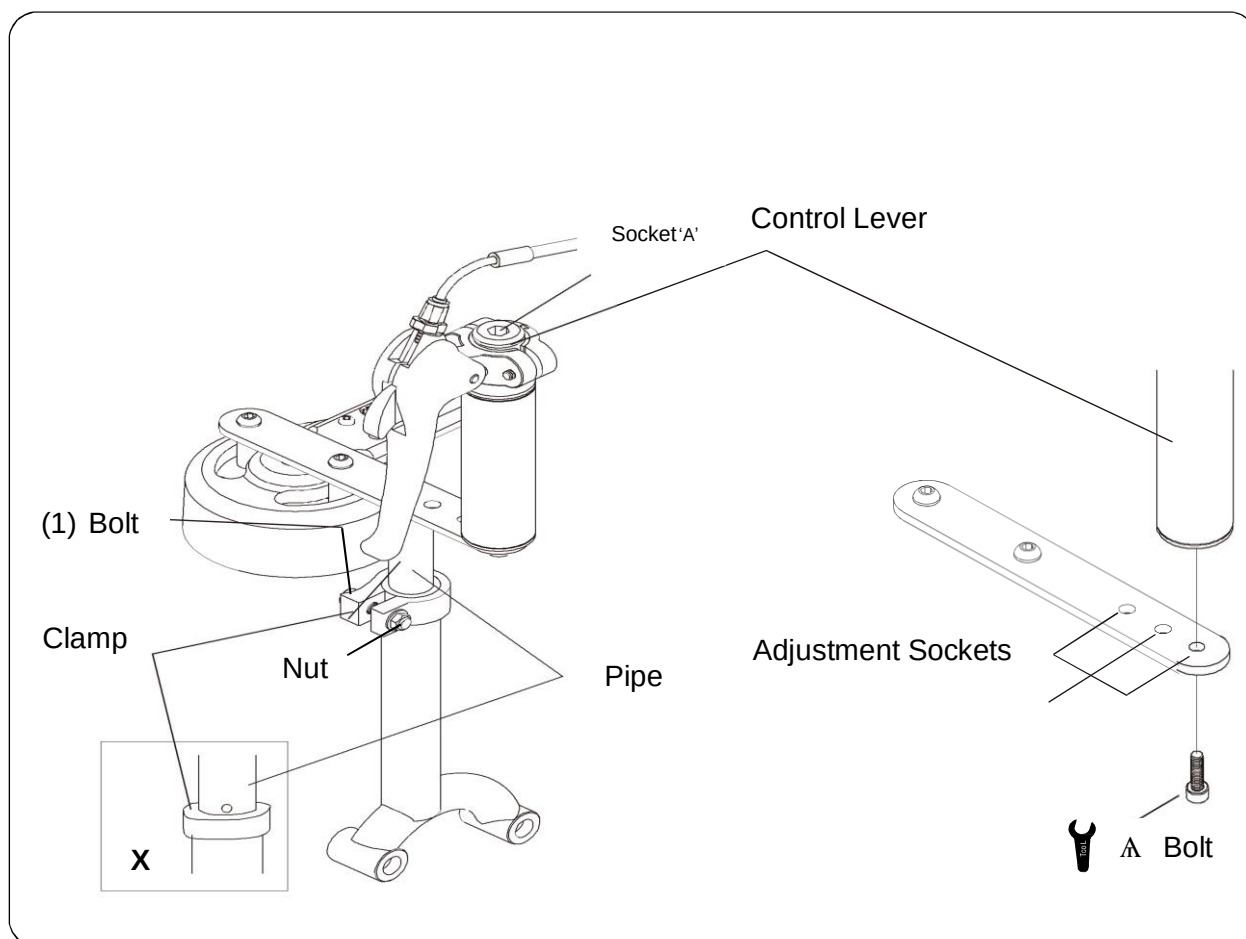
ATTENTION ⚠

Do not let the hole of the inner pipe be exposed while making adjustment. Otherwise, there is risk that the inner pipe will be bent and damage to the wheelchair could occur.

Illustration 1-3

(1) Bolt torque 15N m(1.5kgf m)

(2) Bolt torque 10N m(1.0kgf m)



Control Lever Operation, Adjustment and Inspection

Changing Equipment Position Illustration 1-4

- 1) After removing bolt (1), move the control cable to the side.
- 2) After aligning the frame's installation hole with the collar holes (3), affix them with a bolt (1).
- 3) Remove the bolt (2), and then turn around the plate position.
- 4) Align the plate and the collar holes with the rotating table's holes; use bolts to affix them.

Adjustment of Control Cable – Illustration 1-5

- 1) Loosen the nut (5).
- 2) Tighten (6) the control lever.
- 3) Tighten the nut (5). Be careful not to tighten nut down too far for risk of damaging the nut. Concerning the level of tightness, use your hand to tighten the nut till it won't tighten any further. *If after adjustment the control lever is still too loose, then consult with your dealer.

WARNING

When the control lever feels loose, stop usage for risk of inability to control the wheelchair which could lead to wheelchair overturning or other accident.

ATTENTION

Pay special attention to the torque applied to the bolt (5) for risk of damaging the slack adjuster.

Don't pull the control lever's cable too tightly. If this cable is too tight then there is a risk that it could snap or break.

Illustration 1-4

- (1) Bolt torque 12N m(1.0kgf m)
(2) Bolt torque 10N m(1.0kgf m)

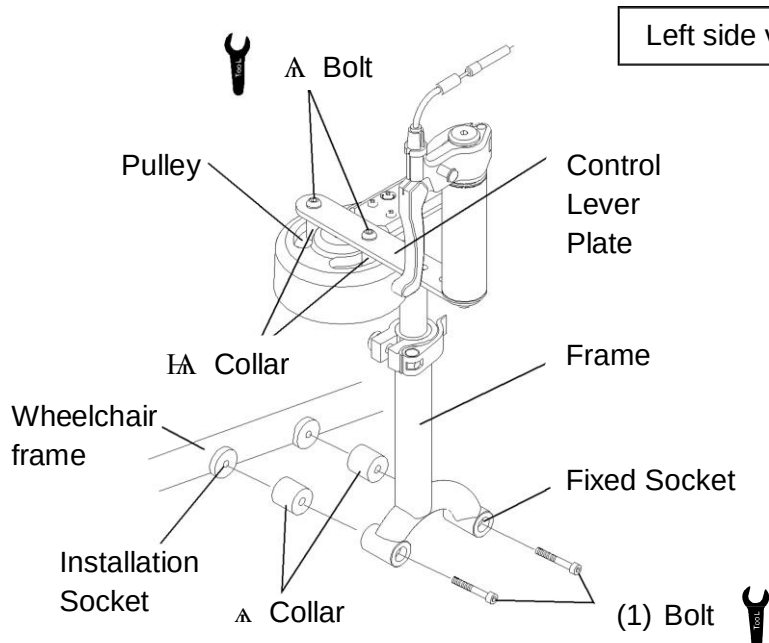
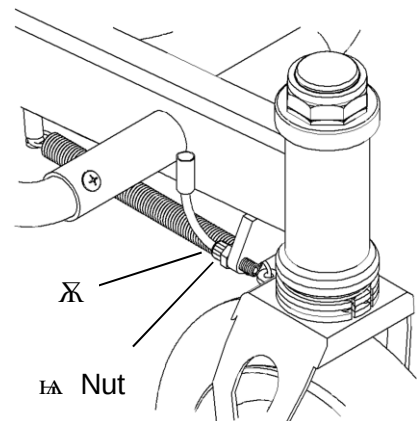


Illustration 1-5



Safety Aids to Riding

Riding Posture

Before riding, put a seat cushion on the wheelchair seat. Adjust the foot strap, back(rest) cushion, and nylon material to the most appropriate position.

*Refer to Part 3 for further explanation of the adjustments and inspections.

Safety Aids to Riding – Illustration 1-6

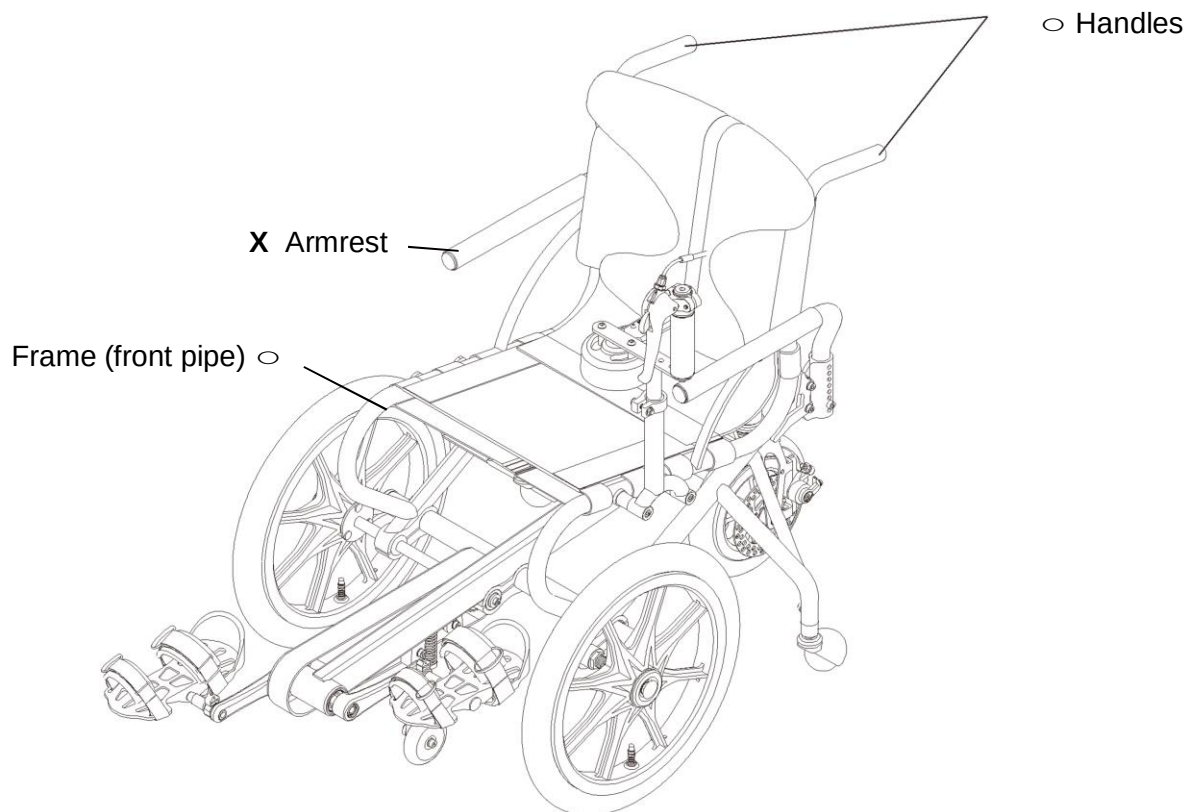
Support staff or caregivers use the handle bars to push the wheelchair.

*Do not adjust the wheelchair seat higher while the rider is in the seat.

WARNING 

Do not adjust the wheelchair seat higher while the rider is in the seat.

Illustration 1-6



PART 3

PROFHAND'S METHODS OF ADJUSTMENTS AND INSPECTIONS

PEDAL ADJUSTMENT AND INSPECTION

BACKREST AND NYLON MATERIAL ADJUSTMENT AND INSPECTION

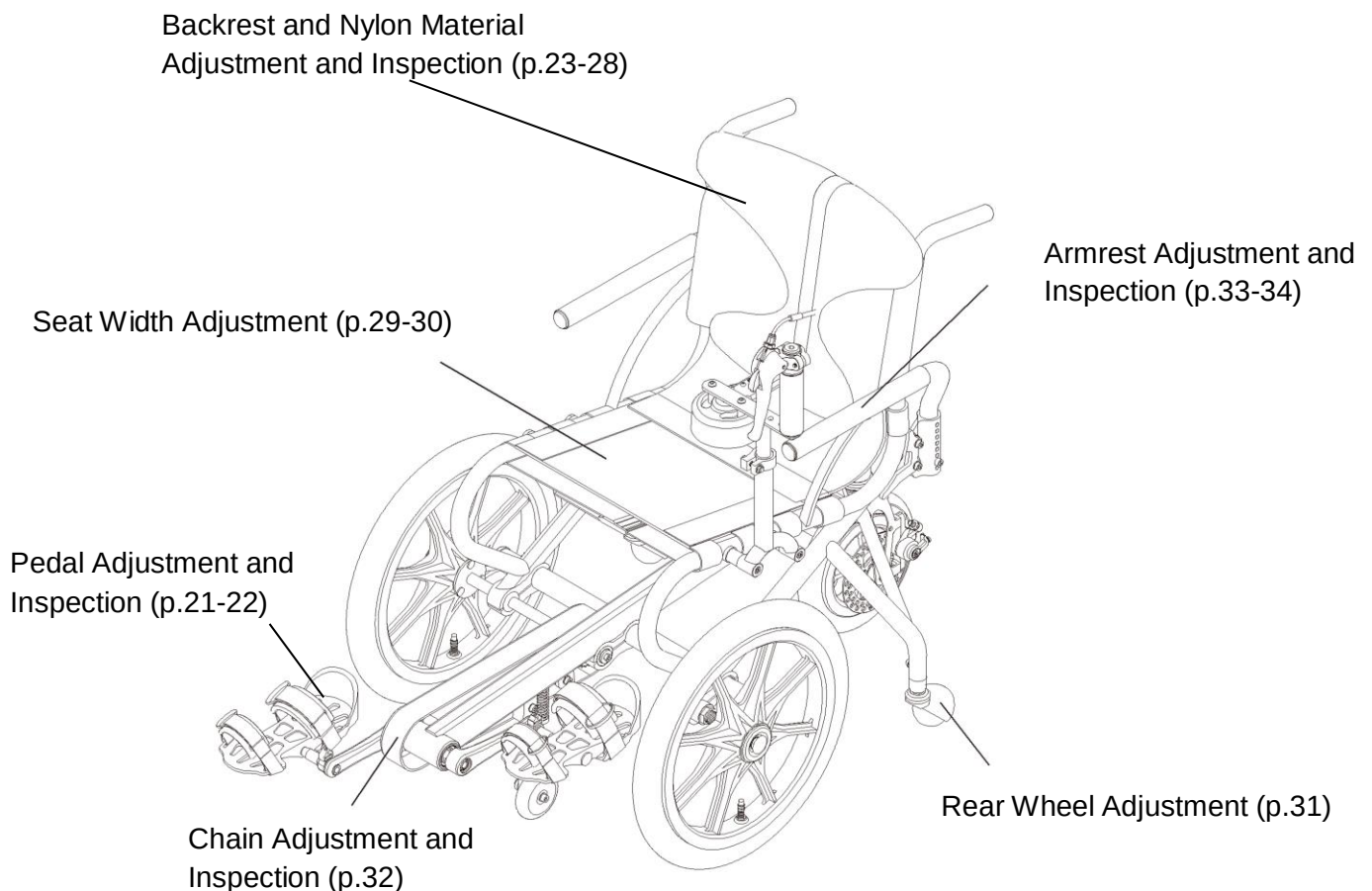
ADJUSTMENT OF SEAT WIDTH

REAR WHEEL ADJSUTMENT

CHAIN ADJUSTMENT AND INSPECTION

ARMREST ADJUSTMENT AND INSPECTION

OTHER ADJUSTMENTS AND INSPECTION



Various Adjustments and Inspections

Pedal Adjustment and Inspection

Pedal and foot strap adjustment – Illustration 2-1

- 1) Pull on the foot strap (1) and ring (2) and undo the Velcro strip.
- 2) Put your foot into the pedal according to the arrow.
- 3) After pulling the foot strap (1) and ring (2) tightly fasten the Velcro.
- 4) The foot strap could be either too long or too short creating a situation where the Velcro will not be fastened properly. Adjust the lower fixed portion of the foot strap (Velcro).
- 5) Ensure that your feet will not deviate from or fall off the pedal.

WARNING ⚠

When riding be sure to wear shoes for risk of injuring your foot.

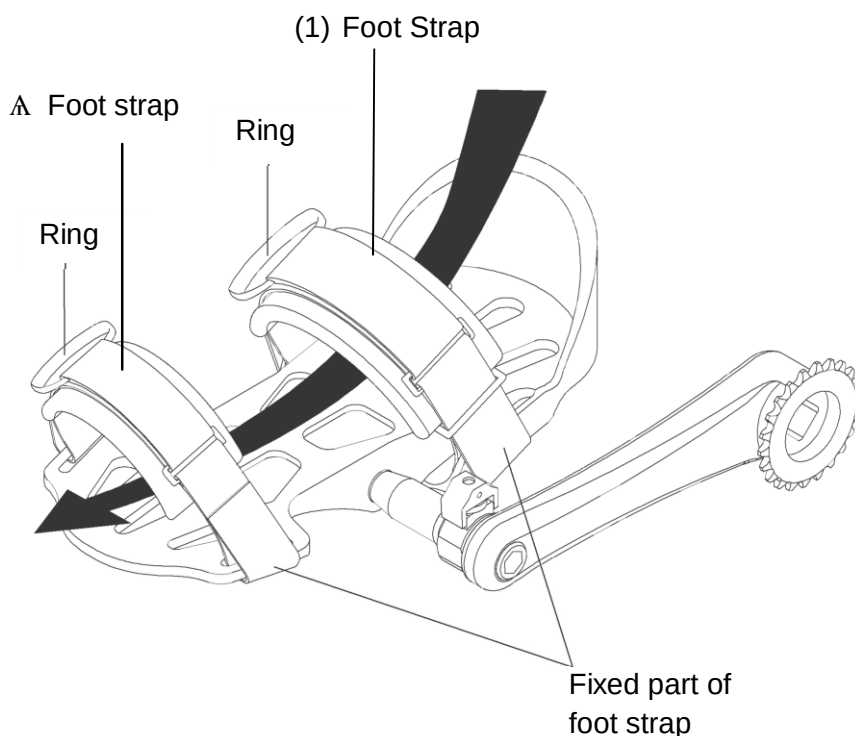
Ensure that your feet will not fall off or out of the pedal. This could lead to an accident (wheelchair overturning) and/or an injury to your foot.

ATTENTION ⚠

Make sure that the Velcro strip is secure. A weakening of the Velcro strap's attachment will negatively affect the usage of the strap and pedal.

Clean any dirt and debris off of the Velcro strap. A weakening of the Velcro strap's attachment will negatively affect the usage of the strap and pedal.

Illustration 2-1



Pedal Adjustment and Inspection

When there is no one riding on the wheelchair and you want to move the wheelchair, remove the pedal for risk of damaging the pedal or the floor.

Pedal Installation – Illustration 2-2

- 1) Completely insert the pedal spindle (axle) into the crank such that it is in a fixed position. *Ensure that the knob on the crank (1) has been completely turned back and is indeed in a fixed position.

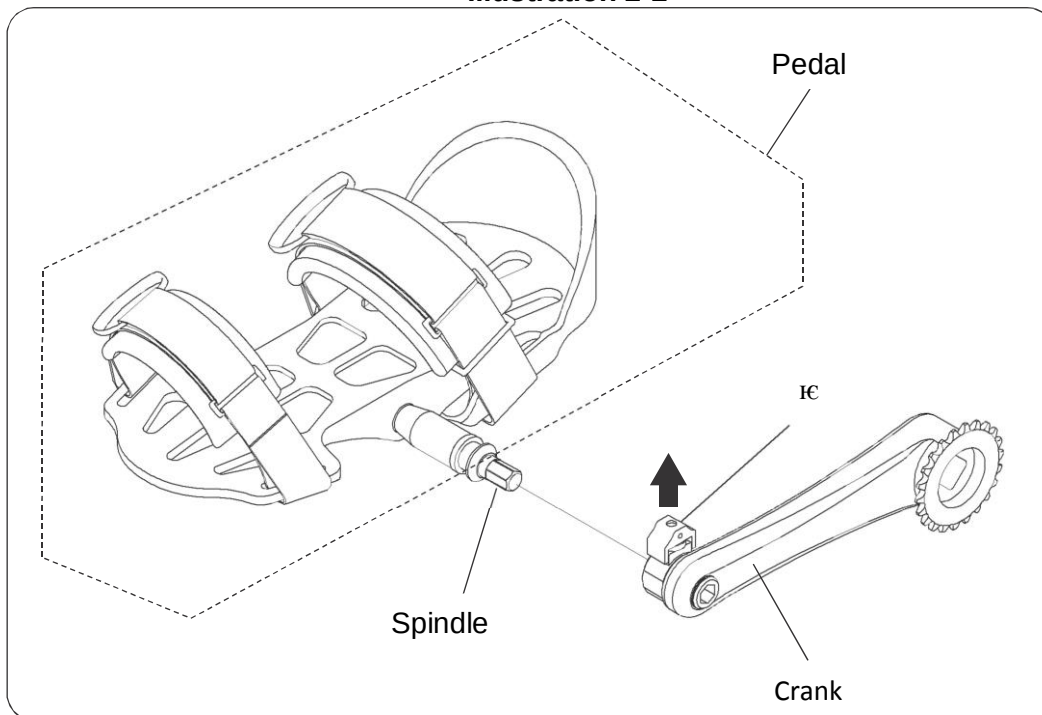
Pedal Removal – Illustration 2-2

- 1) Pull the knob (1).
- 2) At the same time, pull out the spindle.

WARNING 

When there is no one riding on the wheelchair and you want to move the wheelchair, remove the pedal first; otherwise you could damage the pedal or the floor. Ensure the knob (1) is completely turned back such that the pedal spindle (axle) and pedal will not fall out.

Illustration 2-2



Backrest and Nylon Material Adjustment and Inspection

Outer Nylon Material Removal – Illustration 2-3

Take off the outside Velcro strip which is facing down on the inside of the backrest, and then take off the outside Velcro strip on the back of the backrest.

Outer Nylon Material Installation – Illustration 2-3

With the outer nylon material on the inside of the backrest, locate the most appropriate height and fasten the Velcro. Attach rectangular adhesive strip of the outer nylon material along the bottom of the front of the backrest.

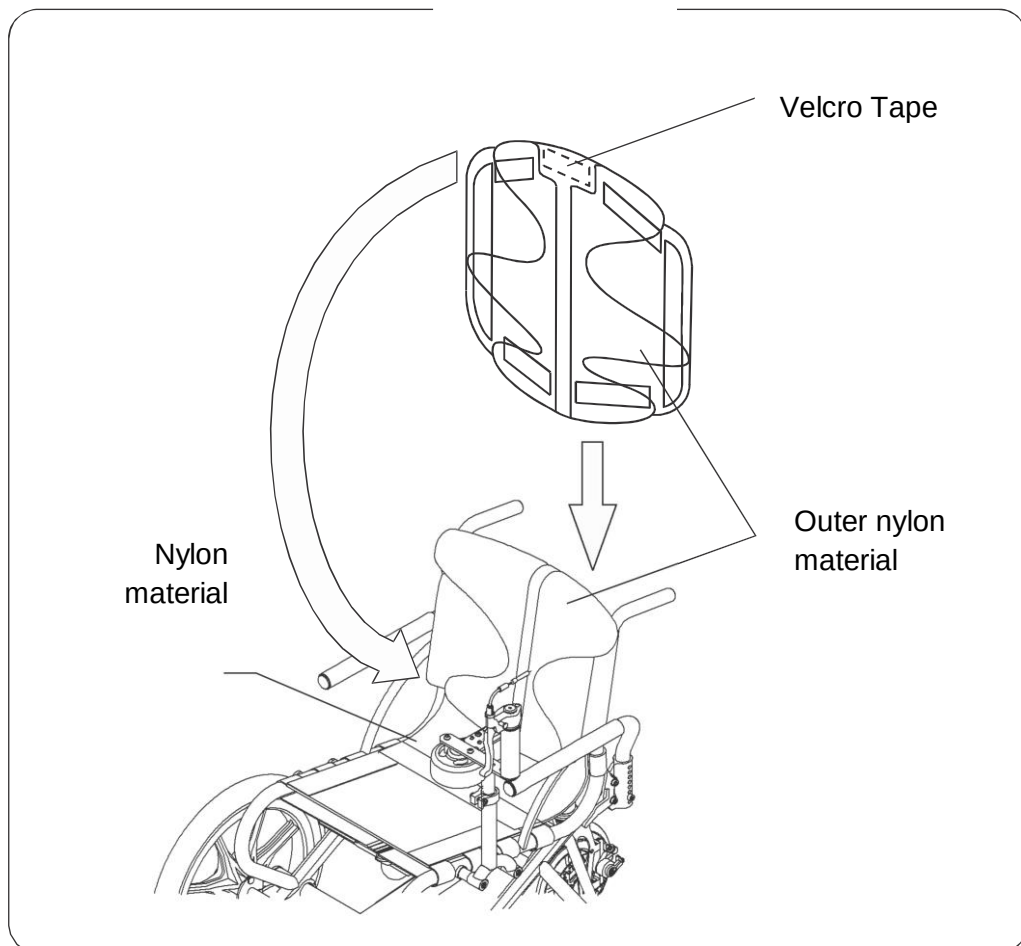
ATTENTION 

Change the nylon and sponge inside of the outer nylon material when the sponge loses its flexibility; otherwise the user's back or waist could develop sores. *Do not change only the sponge material.

Be sure to properly affix the Velcro otherwise the strength of the attachment will be compromised and there will be a need for an adjustment.

Clean the Velcro of dirt and debris. Otherwise a weak Velcro strap attachment will negatively affect the usage and function of the strap.

Illustration 2-3



Various Adjustments and Inspections

Backrest and Nylon Material Adjustments and Inspections

Removal of Nylon Seat Material (cover) – Illustration 2-4

- 1) Remove the Velcro of back part of the outer nylon material of the backrest. (p.23)
- 2) Remove the Velcro of the seat part of the outer nylon material of the backrest.
- 3) Remove the Velcro of the seat part of the outer nylon material of the seat.

Installation of Nylon Seat Material (cover) – Illustration 2-4

Be careful during installation since the nylon material is installed in a specific direction.

- 1) Fasten the Velcro of the seat part of the nylon seat cover.
- 2) Fasten the Velcro of the seat part of the nylon material of the backrest.
- 3) Complete fastening the outer nylon material. (p.23)

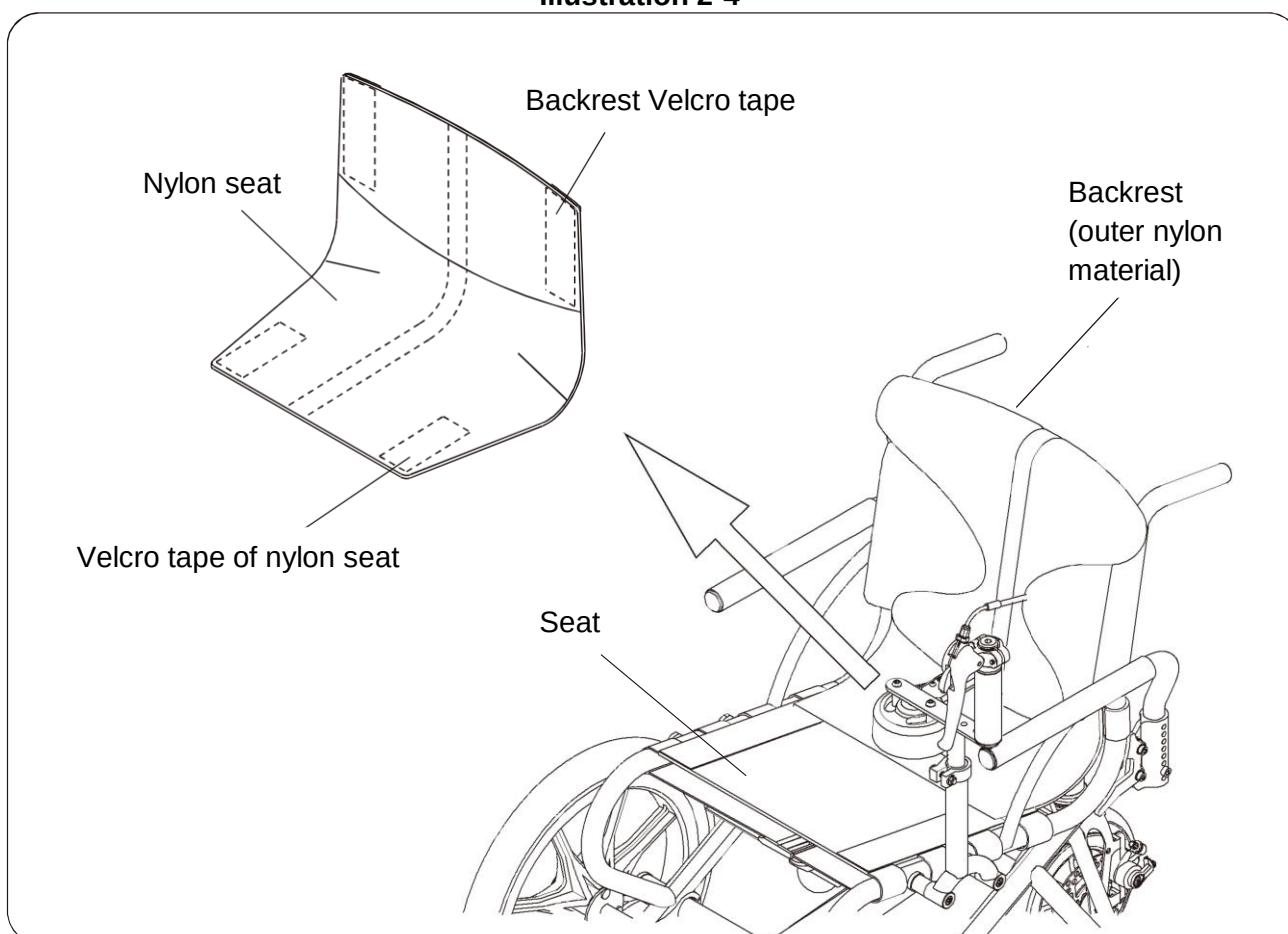
ATTENTION 

Tension of the nylon cushion affects the user's riding posture, so ensure that it is properly adjusted.

Be sure to properly affix the Velcro; otherwise the strength of the attachment will be compromised and there will be a need for an adjustment.

Thoroughly clean any dirt, string, and debris from the Velcro since this material compromises the strength of the attachment.

Illustration 2-4



Various Adjustments and Inspections

Backrest and Nylon Material Adjustment and Inspection

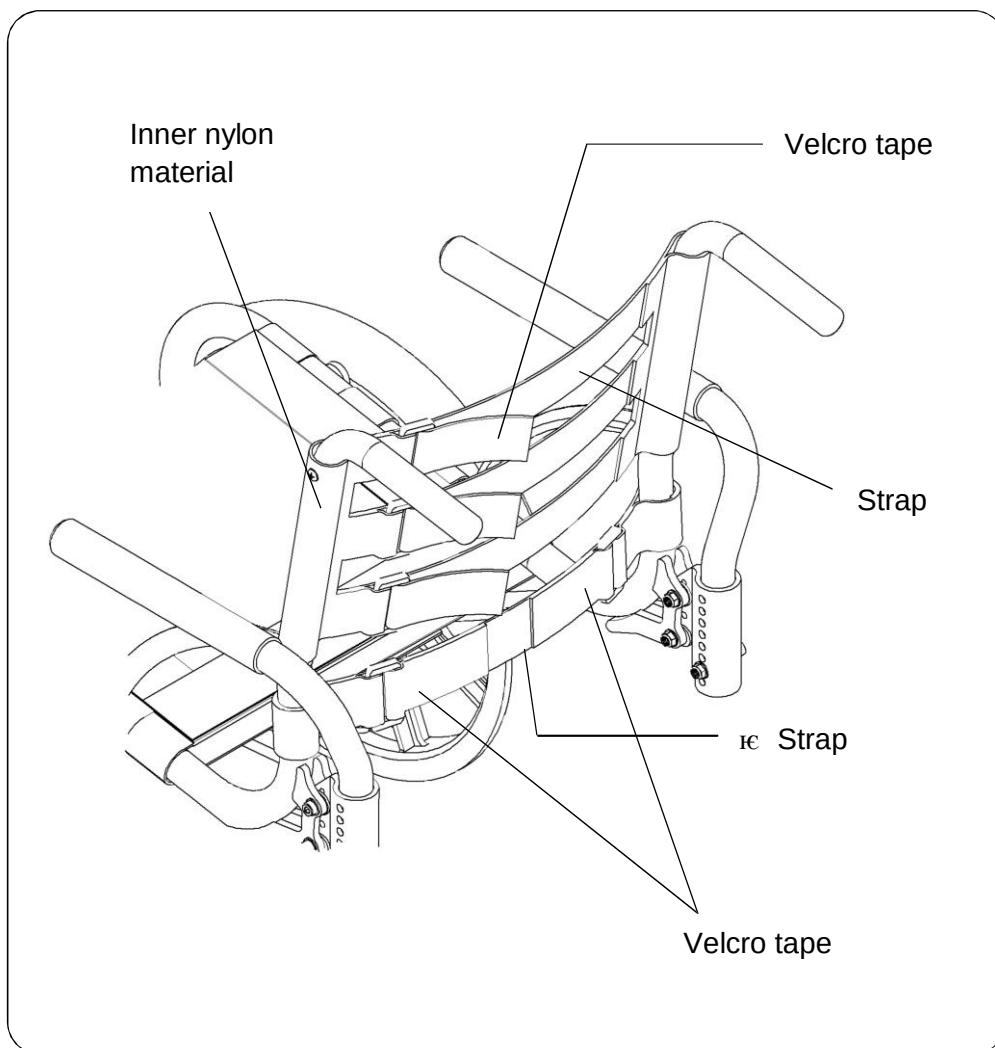
Inner Nylon Material Adjustment – Illustration 2-5

- 1) Remove outside and nylon seat parts (p.23, p.24).
- 2) Adjust the upper and lower straps of the inner nylon material along with (1) to the most appropriate tension.
- 3) Install outer nylon material and nylon seat material (p.23, p.24)

ATTENTION 

Be sure to properly affix the Velcro; otherwise the strength of the attachment will be compromised and there will be a need for an adjustment.
Thoroughly clean any dirt, string, and debris from the Velcro since this material compromises the strength of the attachment.

Illustration 2-5



Various Adjustments and Inspections

Backrest and Nylon Material Adjustment and Inspection

Removal of Inner Nylon Material – Illustration 2-6

- 1) Pull the left and right armrests upwards to the rear. (p.33)
- 2) Remove the outer nylon material. (p.23)
- 3) Remove nylon seat material. (p.24)
- 4) Remove/Install the screws on both the right and left side.
- 5) Refer to p.27, Backrest Height Adjustment. After removing the handles, pull the inner nylon material up to remove it.
- 6) Undo the Velcro (A) on the straps (1) on both sides of the wheelchair.

Installation of Inner Nylon Material – Illustration 2-6

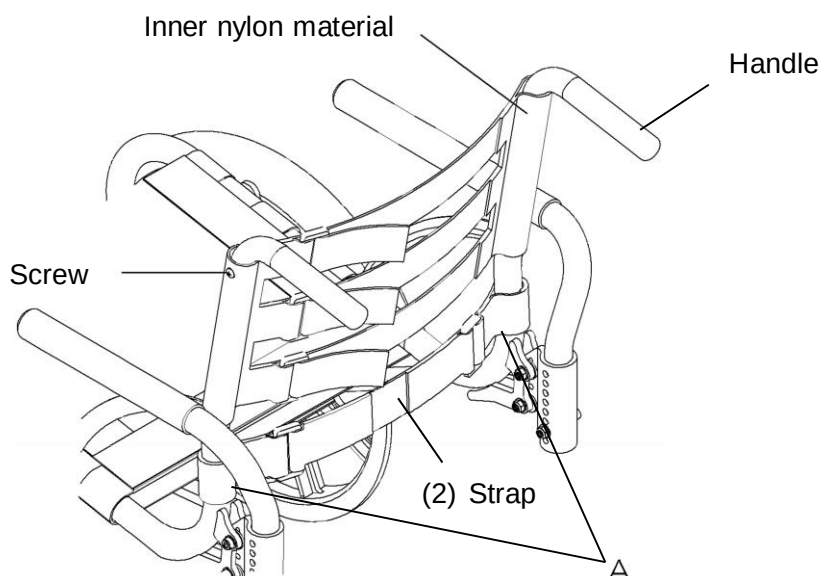
- 1) Insert the inner nylon material on the backrest.
- 2) Refer to p.27, Backrest Height Adjustment. After adjusting the height of the handles, use screws on both sides to affix the inner material. For adjustments purposes, tighten so that the nylon is not too loose. Also, do not tighten screws to the extent that the metal ring is crushed or damaged.
- 3) The Velcro on the strap on both sides of the wheelchair goes around the frame.
- 4) Inner Nylon Material Adjustment. (p.25)
- 5) Nylon Seat Material Installation. (p.24)

ATTENTION

Be sure to properly affix the Velcro otherwise the strength of the attachment will be compromised and there will be a need for an adjustment.

Thoroughly clean any dirt, string, and debris from the Velcro since this material compromises the strength of the attachment.

Illustration 2-6



Various Adjustments and Inspections

Backrest and Nylon Material Adjustment and Inspection

Backrest Height Adjustment – Illustration 2-7

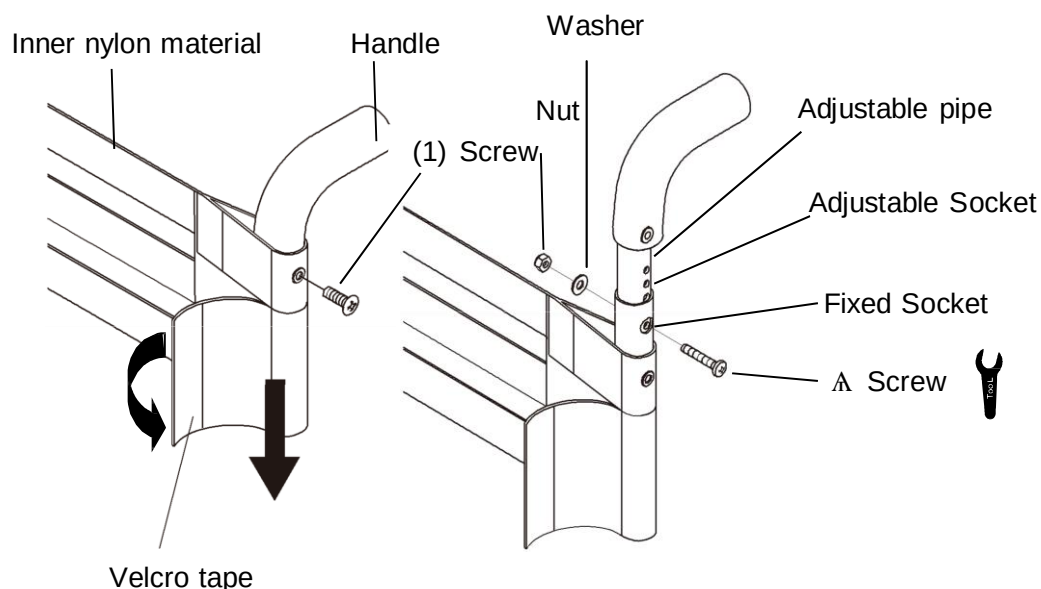
- 1) Pull the armrest upwards to the rear. (p.33)
- 2) Remove the screws (1). After opening up the side Velcro, pull down the inner nylon material, then the screws, washers, and nuts (2) will be exposed.
- 3) Remove the screws, washers and nuts (2).
- 4) The adjustable pipe can move both upwards and downwards. Adjust it to the most appropriate height.
- 5) Pass the screw the fixed hole and adjustable hole, using a washer and bolt to connect and tighten – paying attention to tighten to the extent where the handle is firmly tightened – so as not to change the shape of the pipe.
- 6) Do the same on the other side.
- 7) Pull the inner nylon material back to its original position. Put the screw in (1). Pay attention to securely tighten the screw so that the inner nylon material is firmly affixed and not cause the metal ring (washer) to change shape.

ATTENTION 

Ensure that both sides are adjusted to the same height for risk of damaging the wheelchair.

*Ensure that both sides of adjustable holes of the adjustable pipes are even.

Illustration 2-7



Various Adjustments and Inspections

Backrest and Nylon Material Adjustment and Inspection

Nylon Seat Tension Adjustment – Illustration 2-8

- 1) Turn the wheelchair over, using the buckle and Velcro adjust the inner nylon seat material to the most suitable tension.
- 2) Once again adjust the tension of nylon material in the seat/hip area (p.24) so that it matches the inner nylon seat material's tension. *Ensure that the nylon material has enough tension so that the user's body will not touch the frame.

Nylon Seat Material Removal – Illustration 2-8

- 1) Turn the wheelchair over; Undo all the buckles from the inner nylon seat material.
- 2) Remove the nylon material of seat/hip area (p.24) which is on the nylon seat.
- 3) Remove the nylon seat.

Nylon Seat Installation – Illustration 2-8

- 1) The nylon sits upon the wheelchair and all the straps pass through all the buckles.
- 2) Install the straps.
- 3) Install the seat/hip area of nylon material over the nylon seat. (p.24)

ATTENTION

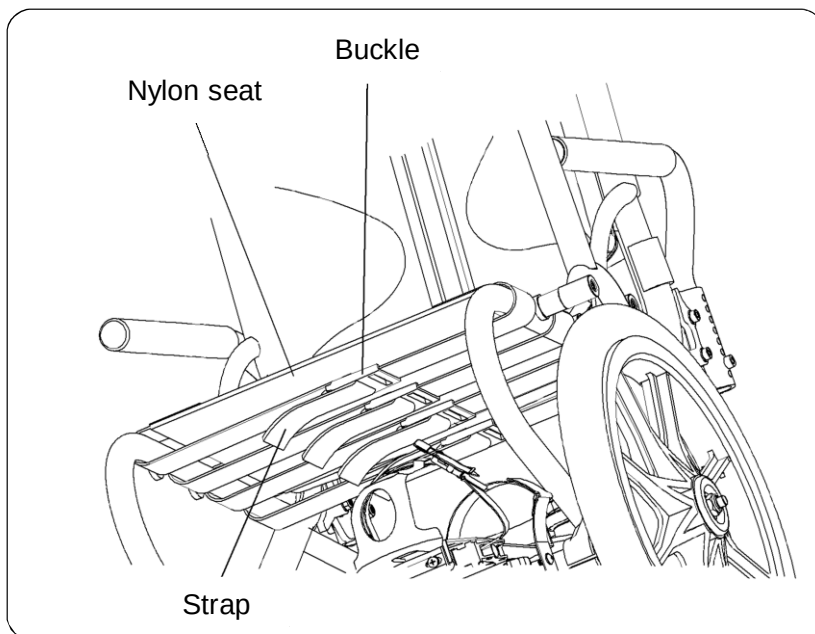
If the nylon seat loosens then pull the straps to tighten for risk of the user's body coming into contact with the wheelchair which over an extended period of time could lead to seat sores.

*After nylon seat adjustment, inspect the wheelchair while riding to see if the inside of the nylon seat comes into contact with the frame.

Be sure to properly affix the Velcro otherwise the strength of the attachment will be compromised and there will be a need for an adjustment.

Thoroughly clean any dirt, string, and debris from the Velcro since this material compromises the strength of the attachment.

Illustration 2-8



Various Adjustments and Inspections

Seat Width Adjustment – Illustration 2-9

- 1) When adjusting the seat width, both the inner nylon material and the nylon seat will be loosened. (p.25, p.28)
- 2) After loosening the bolt, remove the screw and nut allowing the frame to move freely left and right.
- 3) Align the fixed hole and adjustable hole on both the left and right sides, then use a nut and bolt to firmly attach them together. *Ensure that you use the same adjustable hole frame position on both sides.
- 4) Tighten the bolts.
- 5) Adjust the tension of the inner nylon material and nylon seat. (p.25, p.28)
- 6) The spacing between the wheel and the frame on both the right and left side should be the same. (p.30)

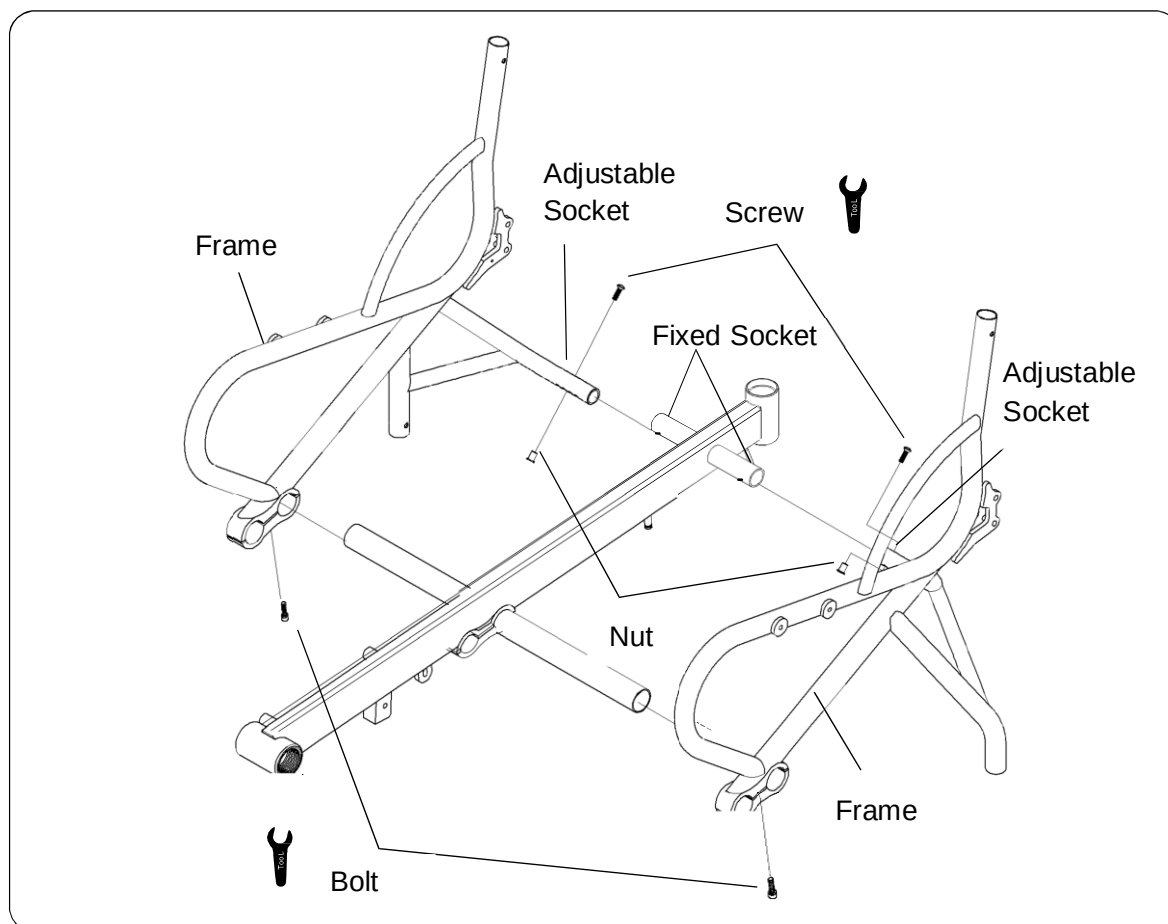
ATTENTION 

Ensure that the frame doesn't press down or pinch the user's body for risk of causing seat sores.

When loosening the nylon of the seat, adjust all the straps. *Physical contact with the frame over an extended period of time could possibly cause sores to develop. *After width adjustment, you should ensure that the inner side of the seat does not come into contact with the frame when riding the wheelchair.

Bolt torque: 25N m(2.5kgf m)

Illustration 2-9



Various Adjustments and Inspections

Seat Width Adjustment

Seat width adjustment only has to be done on the left side of the wheelchair. When adjusting the width of the seat, the spacing between the wheel and the frame on both the right and left side should be adjusted to be the same.

Adjustment of Spacing Between Wheel and Frame – Illustration 2-10, Illustration 2-11

- 1) Remove the wheel. (p.15)
- 2) After loosening nut, then loosen bolt.
- 3) Adjust the position of the collar - if it is still not in proper position, and then continue adjustment using the bolt. *Use the collar and the protruding bolt that inserts into the crank for adjustments. *Adjustment should be done within the specifications given in illustration 2-11.
- 4) Confirm that the spacing between the wheel and the frame is the same on both sides. Tighten the bolt then the nut.
- 5) Install the wheel.

ATTENTION 

Ensure the collar and the protruding bolt that inserts into the crank are adjusted according to the specifications given in the illustration. *Otherwise there is a risk of the wheel falling off, the wheelchair overturning or the wheelchair being damaged.

Bolt torque: 25N m(2.5kgf m)

Nut torque: 28N m(2.8kgf m)

Illustration 2-10

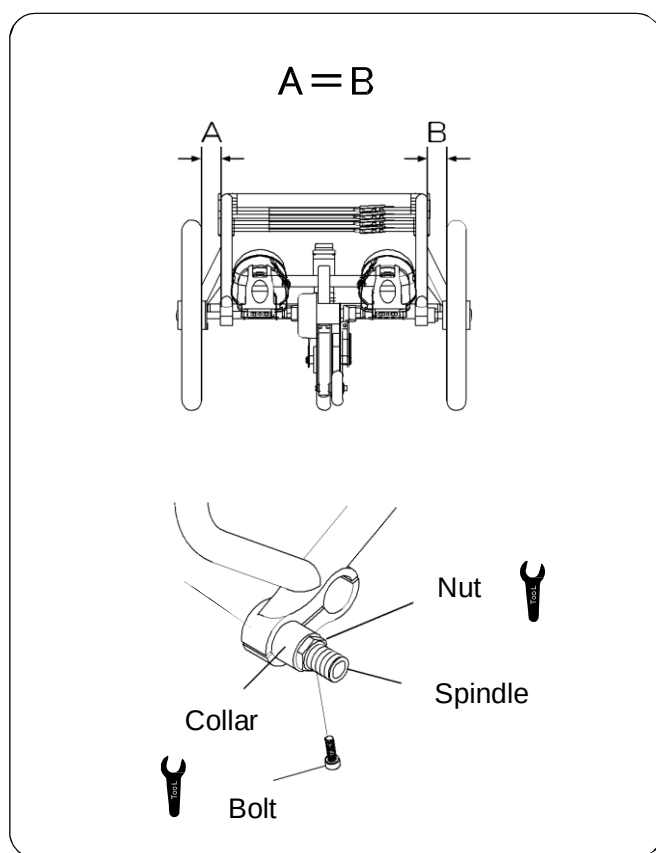
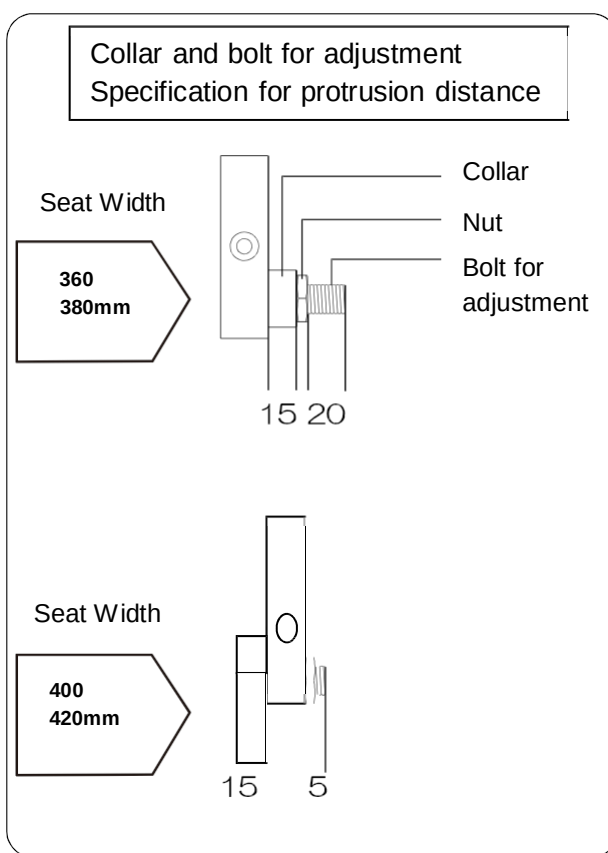


Illustration 2-11



Various Adjustments and Inspections

Rear Auxiliary Wheel Adjustment

Height Adjustment – Illustration 2-12

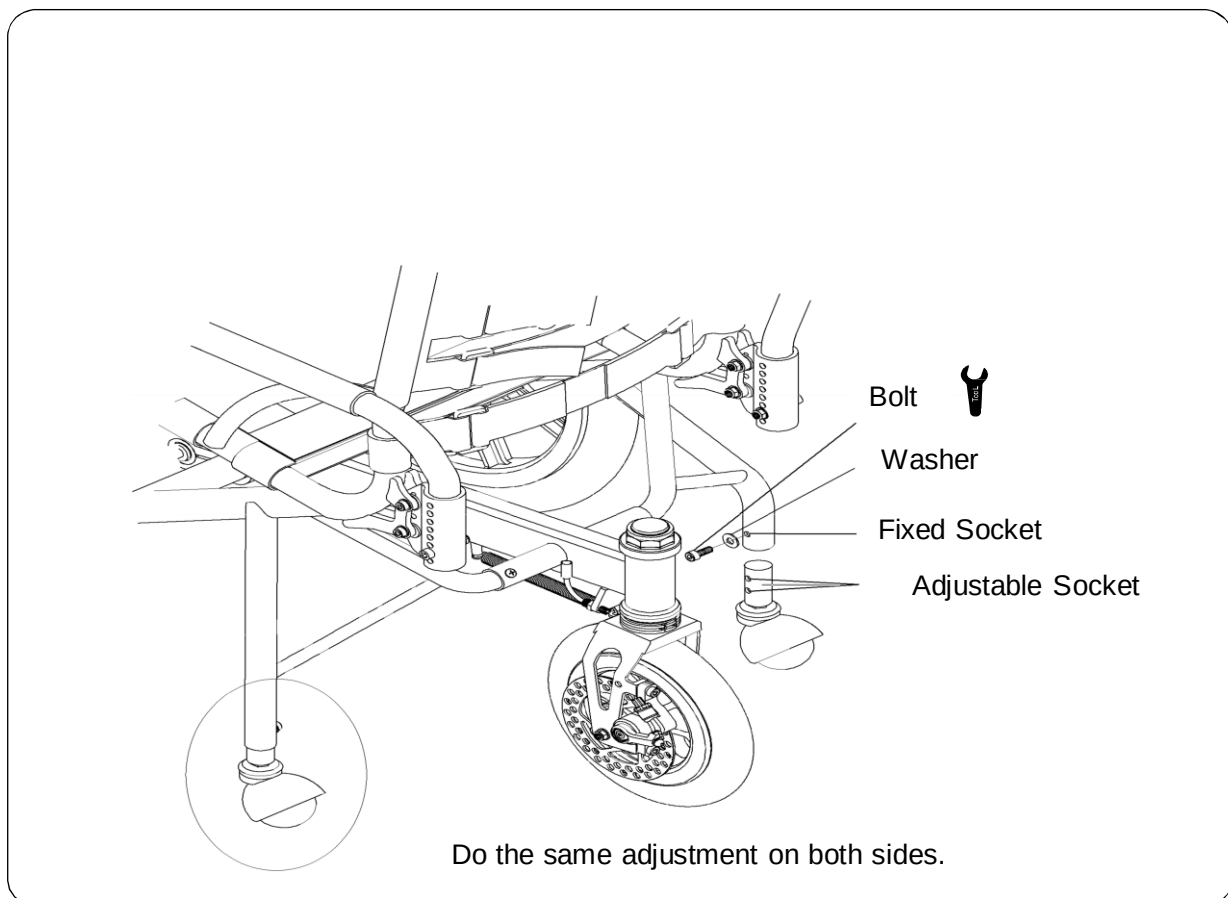
- 1) Remove the nut and washer.
- 2) Adjust to the most appropriate adjustable hole.
- 3) Affix the washer and bolt.
- 4) Adjust both the right and left sides to the same height.

WARNING 

Ensure that the adjustable hole of the same height is used for both the left and right side. Otherwise the wheelchair will be unstable which could lead to the wheelchair overturning and damaging the wheelchair.

Bolt torque: 10N m(1.0kgf m)

Illustration 2-12



Various Adjustments and Inspections

Chain Adjustment and Inspection

Chain Tension Adjustment and Inspection – Illustration 2-13

- 1) Remove the right pedal. (p.22)
- 2) Remove the screws for the chain guard and crank, and then remove the chain guard.
- 3) After using a 14mm wrench to fasten the tension regulator, loosen the bolt in the opposite direction. Adjust the tension of the tension regulator to most appropriate tension. *The most appropriate tension is shown in 'a' of illustration 2-13. The amplitude of the chain should be from 10-15mm.
- 4) After the tension regulator has been properly set, then tighten the bolt. *Ensure that the chain will not come into contact with the chain guard.
- 5) Once again, fasten the chain guard using screws. Fastening the screws tightly enough so that the chain guard will not move. Do not tighten too much such that the chain guard is damaged.

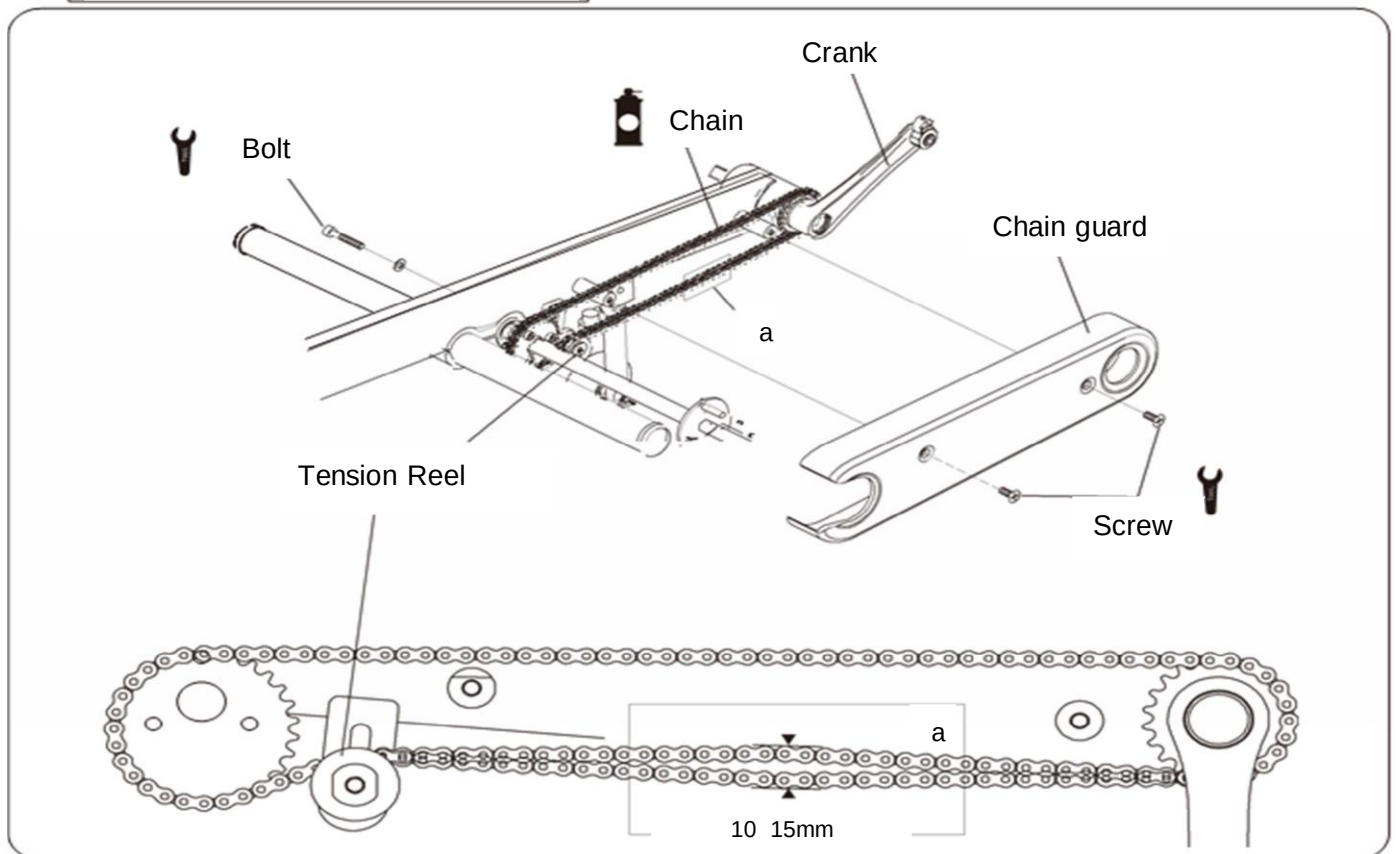
ATTENTION

Ensure the chain will not come into contact with the chain guard for risk of damaging the chain or chain guard.

Do not put your foot on the chain guard for risk of damaging the chain guard.

Illustration 2-13

Bolt torque: 10N m(1.0kgf m)



Various Adjustments and Inspections

Armrest Adjustment and Inspection

Adjustment - Illustration 2-14, 2-15

Raising the armrest:

- 1) Grasp the front of the armrest and pull it upwards towards (1) in illustration 2-14. If you continue to forcefully pull up on the armrest past its final resistance point then you risk damaging it. *The degree the armrest can move depends on the height of the armrest.

Returning the armrest to resting position:

- 1) Push the armrest downwards towards (2) in illustration 2-14.
- 2) Push it down till it will not go down any further. Insert the collar (A) inside the hook to stabilize the armrest. Illustration 2-15. At this point the armrest will be braced upwards.
- 3) Ensure that the collar is properly inserted into the hook. *Inside the bracket is a rubber ring and collar, thus there will be slight movement in this part. (But the armrest itself is immovable.)

WARNING

Do not let the armrest deteriorate. A damaged armrest could lead to the wheelchair overturning or some other accident.

ATTENTION

Do not lift the wheelchair up by the armrest for risk of the wheelchair overturning or having an accident.

When the armrest is in an up position, do not ride the wheelchair for risks of clothing getting caught in the wheelchair and causing an accident. Ensure that the armrest is returned to its original position before riding.

When raising the armrest or putting the armrest back down to its original position, be careful not to get your hand or clothes caught in the wheelchair (e.g. bracket or backrest). If so, there is risk of injury.

Illustration 2-14

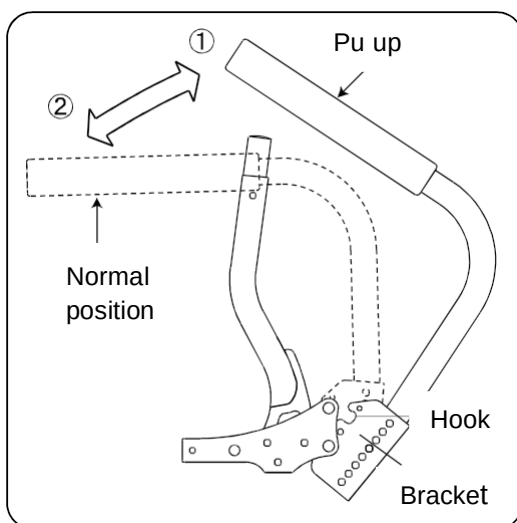
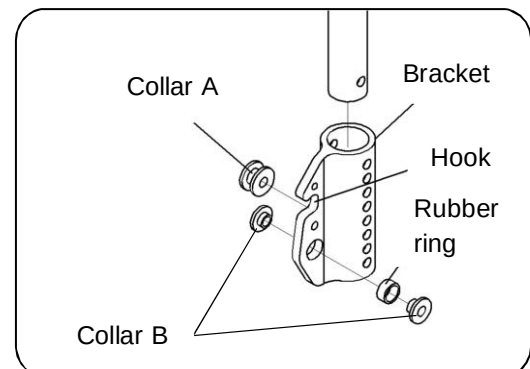


Illustration 2-15



Various Adjustments and Inspections

Armrest Adjustment and Inspection

Height adjustment: – Illustration 2-16

- 1) Take off the bolt, nut, washer, and gasket.
- 2) Align the appropriate adjustable hole with the fixed hole. *Do not use the highest adjustable hole.
- 3) Affix and tighten using bolt, nut, washer and gasket to the armrest pipe. *Have the gasket put in the adjustable bracket hole.
- 4) On the other side of the wheelchair do the same adjustment.

Parts Inspection and Method of Changing Parts: Check to make sure there is nothing unstable or any loose bolts. Both the rubber ring and collar are items that wear out. So, these should be changed regularly. If there is an increase in the armrest shaking or the armrest is frequently raised; if this leads to armrest weakening then consult your dealer.

WARNING

When tightening the bolts go according to the sequence given in the illustration. *When the armrest is not properly affixed there is a risk of causing an accident.

First, put the gasket in the large adjustable hole and tighten the bolt. *When the armrest pipe is not affixed properly, then there is a risk of causing an accident. *The spacer lying between the bolt and the armrest pipe should be tight.

ATTENTION

Do not use the upper most adjustable hole for risk of damaging the armrest pipe.

Bolt torque: 9N m(0.9kgf m)

Illustration 2-16

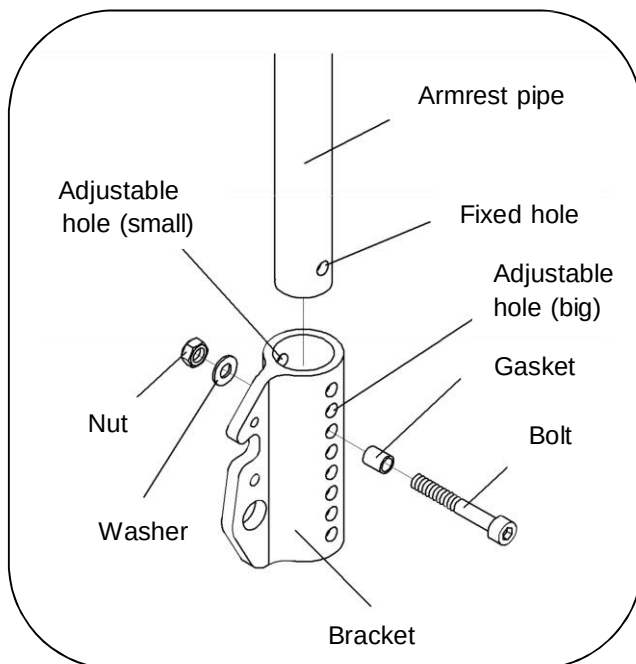
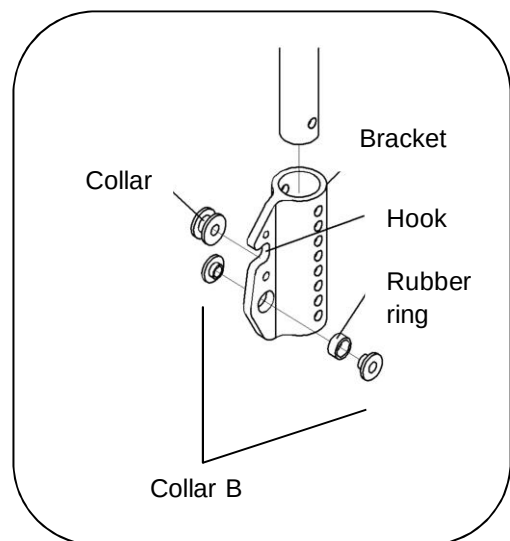


Illustration 2-17

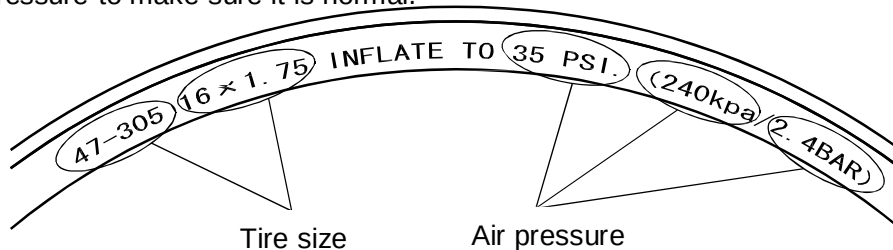


Various Adjustment and Inspections

Other Adjustments and Inspections

Tire Inspection:

- 1) Check for cracks, damage, foreign material on the tires, depth of tread lines in tires and tire wear, etc.
- 2) When tire(s) is functioning abnormally send it back to your dealer for inspection and repair/maintenance.
- 3) Check tire pressure to make sure it is normal.



Confirm if the air pressure is sufficient – also is the air pressure the same as that of the recommended imprints on the tire. (example above)

Fill the tire with air by following the recommended air pressure on the tire.

ATTENTION 

Do not use leaking tires.

When there is a decrease in tire pressure, there is a risk of having a ruptured tire.

If tire pressure is too low, there is a risk that the tire will separate from the rim.

If the tire pressure is too high due to increased air pressure or heat, then there is a risk of the tire rupturing.

Adjust both tires to the same air pressure.

Checking Around the Wheelchair:

- 1) If you think the wheelchair is working abnormally, then do a wheelchair check up – adjustment, cleaning, add oil, tighten bolts, etc.
- 2) If you think the axle is working unusually, ensure that an inspection is done, clean and oil the axle.

Other Items for Inspection:

- 1) Check over screws, bolts, and nuts once a month. Make sure these aren't loose, falling off, damaged, or producing unusual sounds.
- 2) Check around the small wheels once a month. Make sure they are not bent, damaged, producing unusual sounds, or have wheel rotation problems etc.
- 3) Every day check your brakes before riding. Check to see if they are responsive. Ensure that nuts, bolts etc. are not loose and unable to fall off.
- 4) Every day before riding, ensure the armrest and handles are not wobbly or shaky, nuts and bolts haven't loosened or producing any unusual sounds.
- 5) Inspect the chain if there are any abnormalities – when necessary adjust, clean and oil the chain.

Tire Valve Specifications

Tire Valve Specifications – American and British

Appearance of the Front and Rear Tire Valve – Illustration A

This wheelchair has two types of valve specifications – American and British (note illustration below). Using a standard air pump and according to the air pressure specifications fill the tire with air.

Front wheel: British style (mainly used on bicycles)

Rear Wheel: American style (mainly used on vehicles)

Front wheel air pressure : 270 kpa (2.8 kgf • m) (2.7 ber) (40 PSI)
Rear wheel air pressure : 420 kpa (4.3 kgf • m) (4.2 ber) (61 PSI)

Attention

Be sure to fill the tire with air according to the air pressure specifications before usage. *Otherwise, there is risk of damaging the rim and rupturing the tire-affecting the operation of the wheelchair.

Illustration A

